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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,771	10/20/2003	Hou-Wei Lin	REAP0438USA1	9601
27765 7590 08/16/2007 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116				
			EXAMINER AHN, SAM K	
			ART UNIT 2611	PAPER NUMBER
			NOTIFICATION DATE 08/16/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

Supplemental
Office Action Summary

Application No.

10/687,771

Applicant(s)

LIN ET AL.

Examiner

Sam K. Ahn

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05/21/07
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 8 is/are allowed.
- 6) ☒ Claim(s) 4-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/28/07 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/11/7</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In response to the letter filed 05/21/07, it is acknowledged that Final Action dated 05/02/07 was mailed out in error.

Response to Arguments

2. Applicant's arguments, see p.8, filed 03/28/07, with respect to the rejection(s) of claim(s) 1-4 under 103(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Jane et al. US 4,893,316.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 4 recites "(S/H) circuit for sampling and holding a receiving signal...", while claim 7 recites "... (AAGC), for adjusting the magnitude of the receiving signal...". Claim 6 recites "LPF for filtering ... the receiving signal". It appears that the claim is

reciting the configuration of figure 3 wherein element 15 is the AAGC provided with the "receiving signal". However, claim 4 recites (S/H) circuit also provided with the receiving signal.

Therefore, it appears from the claim recitation that "receiving signal" is provided in a parallel form to all the elements of 13, 14 and 15 in Fig. 3. However, the specification and figure 3 discloses wherein a signal received by AAGC 15 is provided to LPF 14 and the output of element 14 is provided to S/H 13. Therefore, the claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention of how the receiving signal is provided to both elements 15 and 13 and properly function, as claimed.

Claim 5 directly or indirectly depend on claim 4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jane et al. US 4,893,316 (Jane).

Regarding claim 4, Jane teaches a front-end receiver of the communication system, comprising: a sample and hold (S/H) circuit for sampling and holding a

receiving signal (10 in Fig.1 receiving signal 12); a circuit (22 and 20) coupled to the S/H circuit (10) for generating a signal according to the sample-and-hold receiving signal (output of 10); and an analog-to-digital converter (ADC) for generating a digital-form signal according to the filtered receiving signal (24 in Fig.1). Jane further teaches wherein the circuit provides uniform power spectral density (note c.7, l.54-58) and so that the signal input to ADC is below maximum peak to peak voltage of the ADC (note c.7, l.41-47). And although Jane does not explicitly teach the inverse partial response (IPR) filter coupled to the S/H circuit for generating a filtered receiving signal according to the sample-and-hold receiving signal through compensating an ISI introduced by a partial response filter in a transmitter part of a remote transceiver, Jane further teaches IPR filter or IIR filter (filter in Fig.26a) in which the IIR filters are well-known in the art of compensating ISI. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the IPR or IIR filter in the summation circuit 20 in Fig.1 for the purpose of lowering the peak to peak voltage and compensating ISI prior to the ADC.

Regarding claim 5, Jane further teaches wherein IPR is an IIR filter, as explained in regards to claim 1.

Regarding claim 6, Jane teaches all subject matter claimed, as applied to claim 5. And although Jane teaches low pass filter configured with ADC (note c.2, l.44-45), Jane does not explicitly teach LPF filtering the receiving signal

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement as such. Applicant has not disclosed that lowpass filtering the receiving signal provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with filtering at any part of the receiver because filtering in any part of the system is well-known and can be implemented without any novelty. Therefore, it would have been obvious to one of ordinary skill in this art to modify the teaching of Jane to obtain the invention as specified in the claim.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jane et al. US 4,893,316 (Jane) in view of Applicants' Admitted Prior Art (AAPA).

Regarding claim 7, Jane teaches all subject matter claimed, as applied to claim 6. However, Jane does not explicitly teach analog auto gain controller for adjusting the magnitude of the receiving signal to meet the operating range requirement of the LPF.

AAPA teaches analog auto gain controller for adjusting the magnitude of the receiving signal to meet the operating range requirement of the ADC in Fig.1. And although AAPA does not explicitly teach AAGC is provided to LPF, at the time of the invention, it would have been obvious to a person of ordinary skill in

the art to implement as such. Applicant has not disclosed that lowpass filtering the receiving signal provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with filtering at any part of the receiver because filtering in any part of the system is well-known and can be implemented without any novelty. Therefore, it would have been obvious to one of ordinary skill in this art to modify the teaching of Jane to obtain the invention as specified in the claim.

Allowable Subject Matter

5. Claims 1-3 and 8 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:
prior art does not explicitly teach the combined limitation of the front-end receiver comprising IPR filter providing its output to ADC, noise canceller, feed forward equalizer and the decoder as claimed.

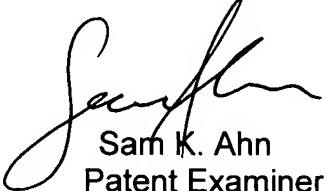
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam K. Ahn
Patent Examiner

8/9/07